A NEW SPECIES OF THE *RHYACOPHILA BRUNNEA* GROUP (TRICHOPTERA: RHYACOPHILIDAE)[1]

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ABSTRACT: *Rhyacophila starki,* new species of the *Rhyacophila brunnea* species group, from Oregon and northern California, is described and figured. Adults of *R. starki* are similar to those of *R. inculta.* However, *R. starki* is unique with male in lateral view having posterodorsal margin of abdominal segment IX shaped like a human face in profile, with a short "nose" (a transverse posterodorsal ridge) extending over the base of segment X and with female having posterior of abdominal segment IX bearing a pair of ventrolateral keel-like ridges.

Recent examinations of caddisfly collections from Oregon and California revealed a previously unknown species of *Rhyaophila.* This species is included in the *Rhyacophila brunnea* group (= *R. acropedes* group, *sensu* Schmid 1970) cf. Smith and Manuel (1984). This brings the total number of Nearctic species in the *R. brunnea* group to 7, including *R. brunnea* Banks, *R. grandis* Banks, *R. inculta* Ross and Spencer, *R. neograndis* Denning, *R. sequoia* Denning, *R. starki* Smith and Weaver, and *R. vao* Milne.

Rhyacophila starki, new species
figures 1, 2, 3

This species appears to be most closely related to *R. inculta* Ross and Spencer (1952). However, *R. starki* is unique, with male in lateral view having posterodorsal margin of segment IX shaped like a human face in profile, bearing a short pointed "nose" (a short transverse ridge) just above segment X, and inferior appendages each with 2nd article unlike those of related species, neither foot shaped nor with dorsal margin greatly incised; females distinguished by having posterior of segment IX with short ventrolateral keel-like ridges.

MALE (fig. 1): Length 12 mm. Head and thorax dark brown to black; wings same color, irrorate; legs and abdominal sclerites brown. Genitalia having abdominal segment IX in lateral view (fig. 1A), with dorsum about 1.5 times longer than pleuron and posterior margin in lateral view shaped like human face in profile, just above base of segment X; abdominal segment X in lateral view somewhat rectangular, length about 2 times its height, in dorsal view (fig. 1B) divided into pair of wide elongate lobes with apices each bearing shallow notch, about 3 times as long as basal width; inferior appendages in lateral view (fig. 1A) similar to those of

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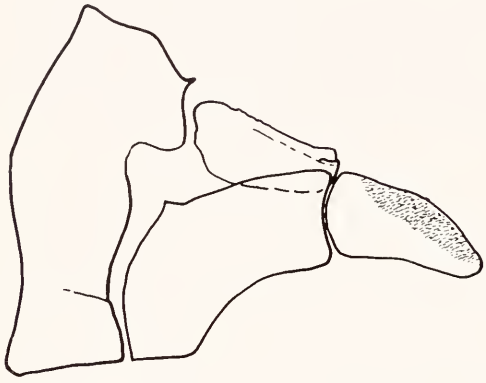
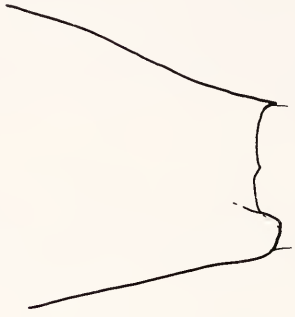
R. inculta, but each with 1st article elongate, not sharply constricted, widest at base, ventral margin concave, and with 2nd article somewhat acuminate, apex blunt, dorsal margin not greatly incised, apical half of mesal surface spinose; phallic apparatus typical of *brunnea* group, lateral arms membranous, extensive, apices spinose.

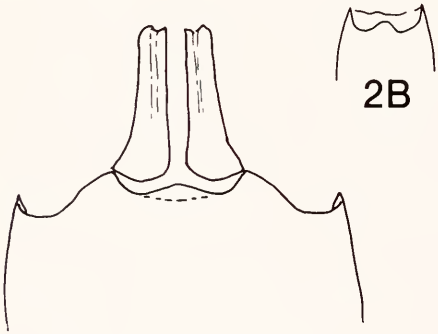
FEMALE (figs. 2, 3): Length 14 mm, with similar coloration as in male. Genitalia with posterior of abdominal segment IX in lateral view (fig. 2A) bearing ventrolateral, keel-like



1A

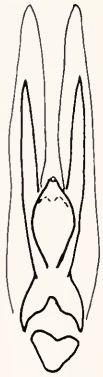


2A



1B

2B



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Figures 1-3 *Rhyacophila starki.* 1. Male genitalia; A. lateral view; B. dorsal view. 2. Female abdominal segment IX; A. lateral view; B. dorsal view. 3. Female vaginal apparatus, ventral view.

ridges, in dorsal view (fig. 2B) posterior margin having wide, irregular, W-shaped emargination with short mid-dorsal, curved flange. Vaginal apparatus (fig. 3) similar to those of *R. inculta,* having 2 pairs of elongate, acuminate arms and shorter ovate central process about 2 times as long as wide.

Material Examined

HOLOTYPE: Male, Oregon, Jackson Co., 1 mile north of Wrangle Camp, Rogue River National Forest, 8 July 1979, W.P. Stark & K.W. Stewart; deposited in California Academy of Sciences, San Francisco, CA.

ALLOTYPE: Female, same data as holotype.

PARATYPE: Male, California, Del Norte Co., seeps, Smith River Canyon, U.S. Hwy. 199, 18 March 1972, R.A. Haick & D.S. Potter; deposited in collection of Dr. D.G. Denning, Moraga, CA.

ACKNOWLEDGMENTS

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ELM RESEARCH INSTITUTE TO AWARD FIRST ANNUAL PRIZE FOR DUTCH ELM DISEASE CONTROL

In an effort to develop new controls for Dutch elm disease, Elm Research Institute, Harrisville, NH has announced its first annual research prize of $10,000.

The prize to be announced via national media, will go to the entry which best outlines a research program that will ultimately lead to development of a new systemic repellent for the elm bark beetle.

All proposals will be judged on the basis of:

1. Water solubility for systemic injection
2. Phytotoxicity
3. Beetle deterence at point of feeding
4. Chemical stability of the repellent
5. Bio-assay technique for tracing distribution

ERI stresses that this is not a research grant. It is an award for originality in the presentation of new concepts, new methods of achieving repellency through systemic treatment.

Prizes will be awarded as follows: $5,000. first place, $3,000. second, $2,000. third. Judging will be by a panel of recognized experts composed of entomologists and plant pathologists. All entries should be mailed to Elm Research Institute, Harrisville, NH 03450 by May 1st, 1984 and will become the property of the Institute.

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